

U.S. Department of
Homeland Security

United States
Coast Guard
Auxiliary



National Staff
Response Directorate
Telecommunications Division



Telecommunications Best Practice

Push-to-Talk Applications for the US Coast Guard Auxiliary

Telecommunications Division

Best Practice

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BACKGROUND.

Over the past number of years various applications have been released for installation on Smart Phones to allow individuals and groups to communicate together without the need for making a cellular telephone call to each individual. Once installed, the Smart Phone behaves similarly to a walkie-talkie in that a push-to-talk button is used for communicating with others on the same system. These applications cover the spectrum from no-charge, online connection of two or more people to sophisticated for fee applications that offer encryption, one-to-one and one-to many calls, and the ability to transfer files, photos, and video. At the no-charge end of the spectrum, applications offer little or no protection from viruses and computer worms, identity theft or authentication spoofing, firewall tunneling, and “data mining” which searches the phone for the names and other information of the user’s contacts.

The Auxiliary National Telecommunications Division has found that “instant messaging” applications (Signal, WhatsApp, Zello, etc.) were being used by some Auxiliary units, attracted by them “being free” along with claims of “end-to-end encryption”. While these applications may be free, there is no way to restrict contacts to members of the Auxiliary.

The Division has reviewed these instant messaging applications with some concern. These applications have the potential to invade the privacy of our members and therefore the privacy of Auxiliary operations, and some have been associated with suspect activity. For example, Zello has been associated with the attack on the Capitolⁱ, and WhatsApp (owned by Facebook) collects data, including contact information, from its users’ phonesⁱⁱ along with their location and habitsⁱⁱⁱ. Further, the ability of Auxiliarists to intercommunicate is not possible should flotillas, divisions, and districts each choose different instant messenger applications.

These facts make the release of a Best Practice document timely and relevant to the Auxiliary and its membership.

PTT EVALUATIONS.

The Telecommunications Division sees value in “Push-to-Talk” (PTT) applications, but only when the security of our members and their operations are ensured. To this end, we have been evaluating PTT

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providers since August 2019. We have provided PTT to each of our 16 districts for a minimum of 15-days. More than 600 Auxiliarists in all districts participated, the overwhelming percentage saying that they see a real use for PTT in their Auxiliary activities.

We are impressed with the service and functionality that PTT can provide to our members – a simple, economic means to intercommunicate with Auxiliarists world-wide, without the need for purchasing specialized equipment or undergoing specialized training. But with PTT relying on cellular or Wi-Fi service from external providers, we are not considering that PTT should replace our mission critical two-way radio systems. We see PTT as a tool to use for communications between our members (a tool for communications rather than a “communicator’s tool”).

FINDINGS.

Through our evaluation of six PTT providers, we have identified the following as mandatory requirements for a PTT service for use by the Auxiliary:

1. No up-front or on-going costs to Auxiliary units at any level; no capital outlay for equipment, and the Auxiliary may change PTT providers at any time.
2. Auxiliarists must be able to obtain service at a monthly cost of under \$6 with no contract, no minimum, and no penalty for cancellation.
3. A strict process to join the network, denying access to non-Auxiliarists. All those requesting service to be vetted and approved by the Auxiliary.
4. Network access via cellular telephone and/or tablet computer.
5. New members’ devices (cell phone or tablet) to be fully configured upon initial activation without the need for any action by the Auxiliarist.
6. Worldwide coverage.
7. Multiple types of talkgroups (“user group channels”) for Auxiliary-wide, District-wide, and/or specialized teams. Provision of private and group voice messages, texts, photos, and videos with end-to-end encryption.
8. Real-time mapping of user locations worldwide; users may choose to temporarily turn-off their location sharing.
9. Ability to select Auxiliary system administrators who can make changes to accommodate system growth and contingency operations.
10. Customized training manuals and “live” training, with 24-hour technical help desk.
11. Interconnection capability to the Auxiliary radio systems.
12. Full system access from a computer via the Internet to allow system access from a Coast Guard command center.

Our evaluations have been coordinated with a similar effort being performed by the Coast Guard PTT study group at headquarters, comparing our findings with theirs. Contact has been maintained with the DHS Science and Technology Directorate who is looking at PTT providers for a Department-wide solution. Through these ongoing coordination efforts, the Auxiliary can announce a Best Practice for our members confident that if a PTT provider other than the one selected in this process is eventually selected by CG Headquarters or by DHS, we can immediately switch to that platform without any additional expense.

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The following are notable events logged during our months of evaluations:

- Loud and clear communications worldwide in such locations as the London underground, the New York City subway, Ho Chi Min City, Tokyo, Okinawa, Guam, Zurich, Bonn, in an airliner in flight over Ireland, and hundreds of miles from shore in the Atlantic Ocean on a NASA ship retrieving a booster rocket. Each of these communications involved Auxiliarists.
- Support of more than 20 Auxiliary HF radio stations during Hurricane Dorian from Puerto Rico to New England. This effort was repeated during Hurricane Isaias.
- Exclusive use by District 11 North during the California wildfires for that their members involved in wildfire evacuations of Coast Guard members and their families.
- Used by District 8 West for three-days of underway testing in a large portion of the Arkansas River where they have never had two-way VHF communications with the Coast Guard – their test between underway boats and Auxiliary watchstanders was a complete success.
- “Administrative” uses at the New York City Marathon, the Miami boat show, and during numerous D-TRAINS where PTT was used to coordinate and manage Auxiliarist activities.

Users were able to successfully use the PTT in operation after less than 15 minutes of training using an instruction booklet and on-air help desk support.

The Push-to-Talk Application Best Practice.

Based on our lengthy evaluations, the National Telecommunications Division Best Practice for PTT Services has identified ESChat as the preferred Push-to-Talk provider for United States Coast Guard Auxiliary units. While Auxiliarists are free to choose what application they would like to use personally, conducting Coast Guard or Auxiliary business should be handled in the most secure and consistent manner. This Best Practice selection is made to ensure that Auxiliarists and units choose to operate on a worldwide interoperable platform; a platform that protects their identity and information; on a system that is managed by their Auxiliary leadership with full-time assistance for their needs and issues; which offers the best value for their dollar. This Best Practice selection provides flexibility to change vendors if or when the Coast Guard or Homeland Security chooses a provider and allows our members to leverage volume for best pricing.

The monthly cost for this service is \$4.57.

The Telecommunications National Staff is positioned to support Auxiliarists with customized instructions, live assistance, and administrators who will not only oversee network operations but will facilitate talkgroup changes to meet local contingency needs. National Telecommunications continues to work on evaluation of system features/functions for applicability to the Auxiliary.

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To sign up for this service, or should you have any questions regarding this Best Practice or ESChat, please contact Andrew Ely, Chief, Coast Guard Support (BC-RTS), 732-390-9300, Andrew.W.Ely@CoastGuardAUX.us.

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ⁱ Report: Some Capitol Invaders Used Walkie-Talkie App Zello To Coordinate Assault, *Forbes*, January 14, 2021, <https://www.forbes.com/sites/siladityaray/2021/01/14/report-some-capitol-invaders-used-walkie-talkie-app-zello-to-coordinate-assault/?sh=77c9904d38b3>

ⁱⁱ When you use WhatsApp, this is data it collects and records for user tracking, *India Today*, December 18, 2020, <https://www.indiatoday.in/technology/features/story/when-you-use-whatsapp-this-is-data-it-collects-and-records-for-user-tracking-according-to-apple-app-store-1750769-2020-12-18>

ⁱⁱⁱ What Does WhatsApp Know About Me?, Vpnoverview, February 8, 2021. <https://vpnoverview.com/privacy/social-media/what-does-whatsapp-know-about-me/>